

# EBRI

## SOURCES OF ECONOMIC SECURITY

---TABLES---

A Presentation for the United  
States Senate Committee on  
Governmental Affairs Subcommittee  
on Civil Service, Post Office and  
General Services

## POLICY FORUM

on

ECONOMIC SECURITY PROGRAMS  
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## The Six Pillars of Economic Security

### Economic Security

Social Security	Personal Savings and Investments	Needs-Related Public Plans	Income From Employment	Family Transfers	Retirement Plans
<ul style="list-style-type: none"> <li>• OASDI</li> <li>• Medicare</li> </ul>	<ul style="list-style-type: none"> <li>• Savings</li> <li>• Home equity</li> <li>• Business equity</li> <li>• IRAs</li> <li>• Life insurance</li> <li>• Stocks, bonds</li> <li>• Annuities</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid</li> <li>• SSI</li> <li>• In-kind benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Full-time</li> <li>• Part-time</li> <li>• Seasonal</li> </ul>	<ul style="list-style-type: none"> <li>• Family support</li> <li>• Bequests</li> <li>• Gifts</li> </ul>	<ul style="list-style-type: none"> <li>• Pensions</li> <li>• Profit-sharing</li> <li>• Thrift savings</li> <li>• Stock ownership</li> <li>• (Health insurance)</li> <li>• (Life insurance)</li> </ul>

	Percent Receiving	Total Income from Each Source <sup>2</sup> (billions)	Average Income <sup>3</sup>
Social Security	92%	\$ 66	\$4,300
Employer Pensions	34	23	4,100
Savings/Wealth	71	36	3,000
Employment Earnings	31	49	9,500
Public Assistance/In-Kind Programs	95	43	2,200
Total	N/A	\$217	N/A

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

<sup>1</sup>Elderly households consist of married couples with a head age 65 and over and single persons age 65 and over.

<sup>2</sup>Total income provided to all elderly from each source listed.

<sup>3</sup>Average amount from each source provided to households, which receive income from the particular sources noted.

<sup>1</sup>ICF estimates derived from data presented in U.S. Social Security Administration, *Demographic and Economic Characteristics of the Aged* (1975).

TABLE 1-2  
OASI Beneficiaries and Benefit Payments—1980

	Beneficiaries (millions)	Benefit Payments (billions)	Average Benefit
Retired Workers	19.1	\$ 74.3	\$4,100
Wives and Husbands	3.0	5.8	2,100
Children	3.1	8.2	2,600
Widowed Mothers	0.6	1.6	2,900
Widows and Widowers	4.4	15.2	3,700
Other	0.1	0.2	1,500
Total	30.3	\$105.3	\$3,700

Source: U.S. Social Security Administration, *Social Security Bulletin*, vol. 44, no. 4 (1981), pp. 48-49.

TABLE 1-3  
Age 65 Social Security  
Pretax Replacement Rates—1979

	Single Worker	Worker with Dependent Spouse
Maximum Covered Wage Earner	25%	38%
Average Covered Wage Earner	44	65
Full-Time Minimum Wage Earner	57	85

Source: U.S. Department of Health and Human Services, Advisory Council on Social Security, *Social Security Financing and Benefits* (1979), p. 59.

\*The Social Security minimum benefit has been eliminated for all persons retiring after January 1, 1982.

# Relation Between Preretirement Earnings and Postretirement Social Security Benefits 65-Year Old Workers at Different Earnings Levels—1982

	Maximum Earner <sup>1</sup>		Average Earner <sup>2</sup>		Full-time Minimum Wage <sup>3</sup>		Half-time Minimum Wage <sup>4</sup>	
	With Dependent Spouse	Single	With Dependent Spouse	Single	With Dependent Spouse	Single	With Dependent Spouse	Single
<b>Preretirement 1981</b>								
Gross monthly earnings	\$2,475	\$2,475	\$1,129	\$1,129	\$581	\$581	\$290	\$290
Less: taxes and expenses	859	1,048	276	339	96	133	37	39
Disposable earned income	1,616	1,427	853	790	485	448	253	251
<b>Postretirement 1982</b>								
AIME	\$1,258	\$1,258	\$ 847	\$ 847	\$459	\$459	\$229	\$229
January PIA	606	606	476	476	319	319	226	226
Average monthly benefit per year	940	627	739	493	495	330	351	234
Plus: SSI	0	0	0	0	0	0	41	34
<b>Replacement Rates</b>								
OASI benefit/gross earnings	38%	25%	65%	44%	85%	57%	121%	81%
OASI and SSI benefits/net earnings	58%	44%	87%	62%	102%	74%	155%	107%

Source: Social Security Financing and Benefits: Report of the 1979 Advisory Council on Social Security (Washington, D.C., 1980), p. 49.

<sup>1</sup>Worker has always earned maximum level taxable under Social Security.

<sup>2</sup>Worker has always earned average earnings in employment covered by Social Security.

<sup>3</sup>Worker has always worked full-time at the Federal minimum wage.

<sup>4</sup>Worker has worked 50 percent of the time at the Federal minimum wage.

Year	Beneficiaries (millions)	Total Benefits (millions)	Average Benefit	Real Average Benefit (1979 dollars)
1950	3.5	\$ 961	\$ 276	\$ 832
1955	8.0	4,968	624	1,691
1960	14.2	10,677	754	1,848
1965	19.1	16,737	875	2,013
1970	23.6	28,796	1,222	2,284
1975	27.7	58,509	2,110	2,846
1979	30.3	90,556	2,984	2,984

Source: U.S. Social Security Administration, *Social Security Bulletin Annual Statistical Supplement*, 1977-79, pp. 66-67.

<sup>1</sup>These estimates are different from those in Table I-1 because they include beneficiaries of all ages.

TABLE I-5  
 Benefits and Beneficiaries in  
 Employer Pension Programs—1979<sup>1</sup>

Employer Plans	Beneficiaries (millions)	Percentage of Elderly Households Receiving	Benefit Payments (billions)	Average Benefits
Private	8.7	23%	\$23.6	\$2,700
State/Local	2.3	8	10.8	4,700
Civil Service	1.6	4	12.5	7,700
Military	1.3	1	10.3	8,000
Subtotal	13.9	34%	\$57.2	\$4,100
OASI	30.3	92%	\$90.6	\$3,000

Source: See tables in Appendix A.

<sup>1</sup>Estimates of beneficiaries, benefit payments and average benefits presented in this table include beneficiaries of all ages. They, therefore, differ from those in Table I-1.

TABLE I-6  
 Private Sector Employer Pension  
 Programs—1950 to 1979

Year	Beneficiaries (thousands)	Total Benefits (millions)	Average Benefit	Real Average Benefit (1979 dollars)
1950	450	\$ 370	\$ 822	\$2,479
1955	980	850	867	2,350
1960	1,780	1,720	966	2,368
1965	2,750	3,520	1,280	2,945
1970	4,740	7,360	1,553	2,899
1975	7,115	14,850	2,087	2,815
1979	8,700	23,600	2,713	2,700

Sources: Alfred M. Skolnik, "Private Pension Plans, 1950-1974," *Social Security Bulletin*, vol. 39, no. 6, June 1976, pp. 3-17. American Council of Life Insurance, *Pension Facts* (Washington, D.C., 1977), pp. 30-31, 36. Private pension values for 1979 were derived from ICF Incorporated, *A Private Pension Forecasting Model*, 1979.

<sup>1</sup>Profit Sharing Research Foundation, "Cumulative Growth in Number of Qualified Deferred Profit Sharing Plans and Pensions in the U.S. 1950 Through 1980" (Evanston, Ill., 1981).

Year	Beneficiaries (thousands)	Total Benefits (millions)	Average Benefit	Real Average Benefit (1979 dollars)
1955	427	\$ 595	\$1,393	\$4,200
1960	660	1,078	1,633	4,002
1965	886	1,775	2,003	4,608
1970	1,291	3,280	2,541	4,750
1975	1,730	7,025	4,061	5,477
1979	2,300	10,770	4,683	4,683

Sources: U.S. Social Security Administration, *Social Security Bulletin Annual Statistical Supplement*, 1977-79, pp. 66-67; American Council of Life Insurance, *Pension Facts* (Washington, D.C., 1980), table 15.

TABLE I-8  
Benefits under the Federal Civil Service  
Retirement System—1955 to 1979

Year	Beneficiaries (thousands)	Total Benefits (millions)	Average Benefit	Real Average Benefit (1979 dollars)
1955	297	\$ 380	\$1,279	\$3,857
1960	515	814	1,581	3,875
1965	729	1,385	1,900	4,371
1970	959	2,838	2,959	5,531
1975	1,372	7,056	5,143	6,936
1979	1,617	12,380	7,656	7,656

Sources: U.S. Social Security Administration, *Social Security Bulletin Annual Statistical Supplement*, 1977-79, table 16, pp. 66-67; American Council of Life Insurance, *Pension Facts* (Washington, D.C., 1980), table 13, pp. 26-27.

TABLE I-9  
Benefits under the Military  
Retirement System—1955 to 1979

Year	Beneficiaries (thousands)	Total Benefits (millions)	Average Benefit	Real Average Benefit (1979 dollars)
1955	179	\$ 419	\$2,341	\$7,059
1960	256	694	2,711	6,645
1965	484	1,384	2,860	6,580
1970	773	2,849	3,686	6,890
1975	1,073	6,242	5,811	7,845
1979	1,286	10,279	7,993	7,993

Source: U.S. Department of Defense, Defense Manpower Data Center, Office of Actuary.

Percentage of Families with Family Head  
Age 64 to 69 with Assets—1975

Type of Asset	Percentage Holding	Median Value of This Asset for Those with Asset (1979 dollars)
Liquid Assets	81%	\$ 7,300
Life Insurance, Annuities	75	5,100 <sup>1</sup>
Home Equity	69	27,000
Illiquid Assets	24	13,500
Any of Above Assets	89	33,100

Sources: Joseph Friedman and Jane Sjogren, "The Assets of the Elderly As They Retire" (Cambridge, Mass.: Abt Associates, Inc., 1980), pp. 15, 36, 46, 49 and 66.  
Median value of assets in 1979 dollars estimated by ICF Incorporated.

<sup>1</sup>This estimate reflects the cash value rather than the face value of these policies.

TABLE I-11  
Labor Force Participation Rates  
for Men—1950 to 1980

Age Group	1950	1960	1970	1980
55-59	87%	88%	90%	83%
60-64	79	78	75	61
65 and over	39	29	27	20

Source: U.S. Department of Labor, Bureau of Labor Statistics.

<sup>17</sup>EBRI, *Coverage and Benefit Entitlement*, p. 57.

<sup>18</sup>ICF analysis of the May 1979 Current Population Survey data.

TABLE I-12  
Percentage of Workers Who Work Part-Time—1977

	25-54	55-59	60-64	65 and Over
Men	4%	4%	10%	48%
Women	<u>28</u>	<u>27</u>	<u>35</u>	<u>62</u>
Total	14%	14%	20%	54%

Source: U.S. Department of Labor, Bureau of Labor Statistics, "Work Experience of the Population in 1977," Special Labor Force Report no. 224, p. A-7.

TABLE I-13  
Public Assistance and In-Kind  
Benefit Program for the Elderly—1980

Programs	Elderly Individuals Participating (millions)	Level of Benefits (millions)	Average Benefits per Participant
Medicare	24.5	\$28,300	\$1,200
Medicaid	5.1	4,300	800
SSI	1.9	2,400	1,300
Subsidized Housing	1.3	1,600	1,200
Energy Assistance	1.9	700	400
Food Stamps			

	Married Couples	Single Persons	All Elderly Households
Less than \$2,500	2.0% ( 2.0)	9.1% ( 9.1)	5.8% ( 5.8)
\$2,500-4,999	10.7 ( 12.7)	39.4 ( 48.5)	26.1 ( 31.9)
\$5,000-9,999	31.9 ( 44.6)	29.8 ( 78.3)	30.8 ( 62.7)
\$10,000-14,999	23.5 ( 68.1)	10.2 ( 88.5)	16.4 ( 79.1)
\$15,000-24,999	18.8 ( 86.9)	7.4 ( 95.9)	12.6 ( 91.7)
\$25,000 and over	13.2 (100.0)	4.0 (100.0)	8.2 (100.0)
Total	100.0%	100.0%	100.0%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

<sup>1</sup>Cumulative distribution in parentheses.

TABLE I-15  
Cumulative Cash Income Distribution of the Elderly,  
By Marital Status and Age—1979

	Married Couples Age		Single Persons Age	
	65-72	Over 72	65-72	Over 72
Less than \$2,500	1.9%	2.1%	9.1%	9.1%
Less than \$5,000	10.8	15.5	43.8	52.1
Less than \$10,000	37.4	55.6	74.9	81.0
Less than \$15,000	61.9	77.4	86.7	90.0
Less than \$25,000	84.1	90.9	95.5	96.3
Total	100.0%	100.0%	100.0%	100.0%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

age 72. Employment income earned by those age 65-72 explains most of this difference.

Much of the income variation is explained by income sources. High-income elderly families generally receive income from different sources, and from more sources than low-income families. Social Security income was received by over 90 percent of all households. As shown in Table I-16, except for those with the lowest and highest incomes, more than 90 percent

TABLE I-16  
Percentage of the Elderly Receiving Cash Income, By Source—1979<sup>1</sup>

	Employment Earnings	Social Security	Employer Pensions	Income from Assets	Government Assistance	Other Government Programs	Other
Less than \$2,500	6%	69%	4%	32%	23%	3%	2%
\$2,500-4,999	9	94	10	49	24	8	2
\$5,000-9,999	24	96	37	75	6	10	3
\$10,000-14,999	42	95	55	87	4	10	4
\$15,000-24,999	60	91	52	88	4	10	5
\$25,000 and over	75	80	52	94	2	10	5
All Elderly	31%	92%	34%	71%	11%	9%	3%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

<sup>1</sup>Percentages are based on the number of married couples with a head-of-household over age 65 and single persons over age 65.



**Elderly Households, By Earnings Status—1979**

	With Employment Earnings	Without Employment Earnings	Total
Less than \$2,500	1.2%	7.8%	5.8%
Less than \$5,000	8.8	42.1	31.9
Less than \$10,000	32.9	75.9	62.7
Less than \$15,000	55.0	89.7	79.1
Less than \$25,000	79.8	96.9	91.7
Total	100.0%	100.0%	100.0%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

**TABLE I-18  
Working Status of the Elderly,  
By Age and Marital Status—1979**

Work Status	Married Couples			Single Persons		
	65-69	70-72	73 and Over	65-69	70-72	73 and Over
Full-Time	14%	6%	3%	7%	4%	1%
Part-Time	26	23	12	21	13	6
No Work	60	71	85	72	83	93
Total	100%	100%	100%	100%	100%	100%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

**TABLE I-19  
Cumulative Distribution of Cash Income, By  
Marital Status, Work Status and Age—1979**

	Not Working			Part-Time Work			Full-Time Work	
	65-69	70-72	Over 72	65-69	70-72	Over 72	65-69	Over 69
<b>Married Couples</b>								
Less than \$2,500	2.7%	1.8%	2.0%	0.8%	0.5%	3.1%	1.9%	0.5%
Less than \$5,000	14.0	14.9	17.0	5.5	4.1	9.0	3.8	1.1
Less than \$10,000	43.8	50.8	59.8	25.9	27.2	36.6	11.5	14.0
Less than \$15,000	71.3	74.5	81.7	50.7	58.1	61.1	21.8	29.1
Less than \$25,000	90.1	93.1	93.6	78.5	77.9	84.1	55.1	55.5
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Single Persons</b>								
Less than \$2,500	12.0%	11.2%	9.5%	4.1%	3.6%	4.1%	3.5%	N/A
Less than \$5,000	50.3	54.4	54.1	26.7	22.1	27.8	8.4	N/A
Less than \$10,000	79.1	82.9	82.2	67.1	71.9	67.8	31.7	N/A
Less than \$15,000	88.4	92.9	90.9	83.8	87.9	80.1	59.7	N/A
Less than \$25,000	96.2	97.0	96.9	94.2	95.8	91.1	87.0	N/A
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	N/A

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

Cash Income in 1979	Employment Earnings	Social Security	Employer Pensions	Income from Assets	Government Assistance and Other	Total
Less than \$5,000	3%	76%	3%	6%	12%	100%
\$5,000–9,999	10	59	12	15	4	100
\$10,000–14,999	18	43	17	19	3	100
\$15,000–24,999	34	26	16	22	2	100
\$25,000 and over	48	11	13	27	1	100
All Elderly	27%	37%	13%	20%	3%	100%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data.

<sup>1</sup>Percentages are based on the number of married couples headed by an individual age 65 and over and single persons age 65 and over.

**TABLE I-21**  
**Percentage of Elderly Households Receiving**  
**Certain In-Kind Benefits—1979**

	Medicare	Medicaid	Food Stamps	Housing Assistance
Less than \$2,500	88%	30%	16%	12%
\$2,500–4,999	95	29	16	13
\$5,000–7,499	95	14	4	5
\$7,500–9,999	95	12	2	3
\$10,000–14,999	94	10	2	2
\$15,000 and over	89	9	1	—
All Elderly	93%	16%	6%	5%

Source: U.S. Department of Commerce, Bureau of the Census, *Characteristics of Households and Persons Receiving Non-Cash Benefits: 1979*, Current Population Reports, series P-23, no. 110, pp. 12, 15, 16 and 18.

**TABLE I-22**  
**Cumulative Income Distribution of Elderly Households,**  
**Including Cash Income and In-Kind Benefits—1979**

	Cash Income Only	Cash Income and In-Kind Benefits	
		Excluding Medical Benefits	Including Medical Benefits
Less than \$2,500	5.8%	4.9%	3.6%
Less than \$5,000	31.9	29.7	25.9
Less than \$10,000	62.7	62.5	59.4
Less than \$15,000	79.1	79.0	77.0
Less than \$25,000	91.7	91.8	91.1
Total	100.0%	100.0%	100.0%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data. See Appendix B for details.

<sup>2</sup>If these in-kind benefits were valued at cost, the cumulative percentage of families with incomes:

less than \$2,500 would total 1.4 percent;  
less than \$5,000 would total 15.6 percent;  
less than \$10,000 would total 54.7 percent;  
less than \$15,000 would total 75.3 percent;  
less than \$25,000 would total 90.8 percent.

**TABLE I-23**  
**Cumulative Income Distribution of Elderly**  
**Households, Including Cash Income,**  
**In-Kind Benefits and Annuitized Wealth Income—1979**

	Cash Income Only	Cash Income, In-Kind Benefits and Annuitized Wealth	
		Excluding Medical Benefits	Including Medical Benefits
Less than \$2,500	5.8%	2.9%	2.3%
Less than \$5,000	31.9	19.9	17.2
Less than \$10,000	62.7	50.8	47.8
Less than \$15,000	79.1	71.0	68.7
Less than \$25,000	91.7	88.6	87.6
Total	100.0%	100.0%	100.0%

Source: ICF analysis for EBRI of the March 1980 Current Population Survey data. See Appendix B for details.

<sup>23</sup>This analysis attempts to provide a perspective of the cash income *potential* of personal assets. In evaluating this information, it should be understood that some elderly are unable or unwilling to convert personal assets into cash.

<sup>24</sup>This methodology is also described in Appendix B.

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EBRI and the US Department of Health and Human Services have jointly funded a 1983 CPS update of the 1979 data reported on in these tables.

By mid-1984 all of this analysis will have been updated to reflect economic security status in May, 1983.

## Defining Retirement Income Objectives

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Retirement in good health with sufficient resources to meet the needs of the retiree and family can be a most rewarding time of life. Retirement in poor health, or with inadequate resources, can be traumatic and devastating. As leaders, as legislators, as employers, we are limited in the actions we can take to assure good health for retirees. We can be more effective in our efforts to help provide adequate financial resources to our employees if we first adopt proper retirement income objectives.

In analyzing the financial resources available to meet the needs of our retirees from an employer's point of view, we cannot only look at the traditional three-legged stool of personal savings, Social Security, and private pension; we must also look at medical insurance, including medicare. Furthermore, since our concern is not only with our retirees, but also with their dependents, we must consider life insurance and other available death and survivor benefits. As an employer deciding upon and implementing a retirement income policy, we must understand all aspects of the finances available to retirees in order to best meet our and their retirement income objectives.

### SOURCES OF RETIREMENT INCOME

Of the sources of retirement income, personal savings undoubtedly has the greatest variation among individuals - even among those working for a single employer. In recent years, the availability to employees of Individual Retirement Accounts will greatly increase the portion of retirement income

from this source. (Some analysts consider IRAs as part of the pension leg of the retirement stool. In form it may be that, but in substance I believe it properly is included in the personal savings leg). IRAs for employees are too recent to have a significant impact on the retirement income of current retirees. However, each year their impact will increase. Certainly, by the year 2000, IRAs will provide a meaningful portion of many retirees' financial resources. Nevertheless, many, perhaps most, retiring employees - even in the year 2000 - may not have significant personal savings for retirement. They will be dependent on Social Security and employer-provided retirement income.

Employees in the private sector, employees of most state and local governments, and employees of many non-profit organizations have long been covered by and eligible for Social Security benefits. New federal employees will be joining this group. The range in Social Security benefits among covered employees is less than the range in other sources of retirement income. Nevertheless, Social Security reflects a significant percentage of salary for the lower paid employee and even provides significant amounts of after-tax income for the higher paid employee since at least 50% of the Social Security benefit is tax-free.

To the extent that expenses after retirement are lower, the retiree's income needs to maintain a given standard of living are eased. Put another way: the absence of commuting costs and other work-related expenses, lower taxes, and the existence of such conditions as medical coverage under Medicare enable retirees to maintain their pre-retirement standard of living at a level of income below what they were earning when they retired. On the other hand, necessities formerly paid for by the employer must now be provided by

the retiree out of retirement income. This can be particularly significant for medical expenses for early retirees - before they are eligible for Medicare. To the extent that the employers provide medical benefits after retirement to former employees, the financial strain on their retirement income can be eased.

Medical insurance should not be considered a budgetable expense since through the combination of Medicare and employer-provided medical care, we have relieved the retiree of the major burden for this item. Nevertheless, some employees who retire early may temporarily have to incur significant medical expenses if they lose the employer-provided benefit at retirement yet are not eligible for Medicare coverage until age 65.

Earlier I referred to the retiree and family. This implies that the needs of the retirees do not end with their death. The financial needs of surviving spouses and other dependent family members continue after the retiree's death - in some cases with a substantial reduction in income. A sound retirement income policy takes into account the post-retirement death benefits that are provided. This may include either a single sum death benefit or a pension payable to the survivor for life or over an extended period.

From the employer's viewpoint, however, the pension, together with Social Security, is the key starting point in determining the adequacy of retirement income for employees. Furthermore, the pension is the only source of retirement income provided by the employer, subject to its control, and determinable in amount by the employer. A sound pension policy is the key to establishing appropriate pension goals to best meet the retirement income

needs of the workforce at a cost level most affordable to the employers. How these retirement income objectives are defined, and how they are achieved is the subject of this paper.

#### RETIREMENT INCOME

The general objective of a retirement income policy is to satisfy the economic needs of employees after their working career ends and they retire. Unfortunately, there are no universally accepted objective standards to determine when the employees' needs are satisfied. However, as I will discuss, there are techniques that may be helpful.

The retirement income policy of an employer may be described in a number of ways ranging from general to specific. A policy is typically found in

- the provisions of the current plan, itself,
- the historical development of those provisions,
- the granting of pension payments which are supplemental to those payable from the plan, and
- the granting of increases in pension after retirement to compensate for a deficiency created by inflation.

The sum total of the foregoing provides the extent to which the employee's pre-retirement income will be replaced by Social Security and the pension for various ages at retirement and the degree to which that ratio will not be eroded by inflation.

Pension policy indicates the relative importance of various items that are, or might be considered, in the calculation of a pension benefit.

In designing a pension benefit policy, the employer must address the following questions:

- Is retirement income going to be provided entirely by a defined benefit plan, entirely by a defined contribution plan, or by some combination of both?
- Are all periods of service included or does the pension ignore certain periods such as service before age 25, after age 65, after 30 years of service, etc?
- Is the employee's total compensation taken into account or are items such as overtime and bonuses excluded?
- Are benefits based on career earnings or average final pay?
- Does the employer pay the full cost of the retirement benefit or is the employee expected to set aside a part of current income in order to be eligible for part or all of the retirement plan's benefits?
- Is the plan "integrated with Social Security" or does it provide the same percentage of pay to all employees with equal service?
- Are pensions "indexed" for inflation during retirement?
- Is the pension calculation oriented toward providing substantial benefits upon early retirement or are "full" benefits only payable upon normal retirement?
- Would the amount of normal retirement benefit be considered modest, average or high for a long-service employee (30 or more years)? a medium-service employee (20 to 30 years)? a short-service employee (less than 20 years)?
- What ancillary benefits are provided?



The answers to these questions affect the size of the retirement income, its balance between short-service and long-service employees, between normal and early retirements, and between higher and lower paid employees.

#### Type of plan

Defined benefit plans should be the foundation of a sound retirement income policy. They are the only plans that can assure that the retiree receives the level of periodic income which the employer's retirement income policy attempts to provide. They are also the only plans that can relate the retirees' pension to their income in the years closest to retirement. Defined contribution plans can be a valuable supplement to defined benefit plans but cannot replace them. Furthermore, it is not clear that the retiring employee requires a capital accumulation plan to be available at retirement. Since the topic of defined benefit and defined contribution plans is being addressed by other speakers, I will not discuss it further here. The rest of the paper, except where noted, basically concerns defined benefit plans.

#### Service

Crediting all service from employment to termination is generally perceived as the most even-handed approach. Limiting service by not crediting service before or after a certain age, or limiting the total number of years included in the pension formula, will favor or penalize certain groups - short-service employees, long-service employees, employees who work after normal retirement age, employees who retire early, etc. For the long service employee it doesn't matter if the formula is 2% a year for a maximum of 25 years or

1-2/3% a year for 30 years. For the short and medium service employee it does make a difference in their retirement income.

#### Earnings Definition

If the ratio of the employees' pay for pension purposes to their total pay varies very little from employee to employee, the definition of pay for pension purposes does not have too much of an effect provided the formula is adjusted to produce the appropriate level of retirement income. The distinction is more important where variations among employees or from year to year exist.

The pension should, of course, replace earnings that are earned during the period. Unearned items, such as sick pay or vacation pay that are carried over from a previous period should not inflate the earnings base and the resulting retirement income.

#### Earnings Base

Retirement benefits based on final pay can be related very closely to income in the years immediately preceding retirement. Benefits based on career average earnings cannot be closely related to final earnings without frequent "updates" through plan amendments. However, career earnings plans are updated periodically in order to reestablish the desired level of retirement income for currently retiring employees. Final average earnings are usually computed over a period of three or five years. In some governmental plans, final one or two year periods are used. In private plans periods fewer than three years normally are not used; they can be deemed to be discriminatory by the Internal Revenue Service.

As just indicated, some employers with career average plans update accrued benefits from time to time to approximately track final average plans. While this technique can partly overcome the deficiency of this type of plan, it can also produce dichotomies between the pensions of someone who retires just before an update and someone who retires right after one.

#### Employee contributions

With the rapid increase in employee Social Security contributions (effectively 6.7% of salary up to \$37,800 in 1984 and 7% of some higher amount in 1985), the number of retirement plans with mandatory retirement contributions is declining, a decline which has been occurring for at least two decades. The recent increase in the number of employers that provide both defined benefit and defined contribution plans (many of which have employee contributions) has accelerated the decline in contributory defined benefit plans.

Initially, defined benefit plans were mostly contributory, partly due to the view that the employee should share the responsibility for saving for retirement. The growth in retirement plan coverage after World War II, however, resulted in the establishment of many noncontributory plans and a decline in the popularity of contributory plans. With the increase in the availability of retirement savings plans (e.g., IRAs) and defined contribution plans, contributory defined benefit plans have continued to decline -- especially in private industry. The practice is still fairly widespread in state and local governmental plans. Now that new federal employees will, for the first time, be contributing to Social Security, the

question of the level of their contributions, if any, to their own retirement plan requires careful study and consideration.

#### Integration with Social Security

The integration of the retirement pension with Social Security is an issue not only in determining the benefit formula, but also in determining the level of contributions. One level for earnings subject to Social Security can be adopted while a second level (presumably higher) can apply to earnings above the FICA base. Many benefit professionals, however, believe that the most desirable approach from a benefit design viewpoint is to directly offset a percentage of the Social Security benefit against the pension. While more equitable than the "step-up" approach, the offset approach is more administratively complex.

#### Adjustment for Inflation

Inflation during the employees' working career can generally be managed by means of a pension based on average final pay. After retirement, adjustments for inflation can be made periodically on an ad hoc basis or automatically through an indexing formula. The ad hoc approach is common in private plans; the automatic indexing approach is common in public plans. Although most adjustments have been calculated based on the Consumer Price Index (CPI-U or CPI-W), it is questionable whether the CPI accurately reflects the effect of inflation on retirees. To date, no index for retirees has been developed.

#### Early Retirement

The level of early retirement benefits, as compared to the normal retirement benefit, can act as a strong force encouraging or discouraging early

retirement. If the early retirement benefit is the actuarial equivalent of the accrued normal retirement benefit, the formula does little to encourage early retirement. If the benefit is greater than the actuarial equivalent, especially when the early retirement benefit is equal to the full accrued pension, it can encourage employees to take early retirement. The age (or age and service combination) at which the full accrued benefit can first be paid has a significant effect on early retirement. It is the earliest age at which employees perceive that they are not being penalized if they retire early.

A pension benefit policy should recognize the concept of a "proper" retirement age such as 62, 65 or 70 and that most employees who "retire" at age 50 or 55 do not leave the work force but seek other full- or part-time employment. It costs at least twice as much to provide full retirement income starting at age 55 as starting at age 65.

#### Level of Benefit

The issue of the level of retirement income as compared to income just before retirement is twofold. First, the desirable level of normal retirement income must be defined. Second, it must be defined in terms of the long-service employee, the medium-service employee and the short-service employee.

Most corporate plans determine the "proper" retirement income level for the long-service employee and give pro rata benefits to shorter service employees. Through the use of front-loaded formulas, other plans give somewhat more than proportionate benefits to the short-service employee. The

present Civil Service plan gives less than a proportionate benefit through the use of a back-loaded formula.

#### Ancillary Benefits

In addition to providing retirement income, a sound retirement income policy will address the question of providing other benefits to meet the needs of the retiree. This can include disability income, death benefits after retirement, and medical insurance in conjunction with Medicare. These benefits can be provided as part of the retirement program. Death benefits, particularly joint and survivor benefits to beneficiaries of retirees, are almost always provided as part of the retirement plan. These benefits are often highly subsidized by the employer, as is done in the Civil Service System, but may be paid for entirely by retirees who elect the benefit through an actuarial reduction in their pension. Medical benefits and other forms of death benefits are generally provided as separate benefits.

#### Replacement Ratio and Benefit Ratio

The various issues discussed above are reflected in the retirement benefit formula. Together with the benefit accrual rate, they define the amount of retirement income. However, this definition is not sufficient to determine whether the retirement income objectives have been attached. For this, certain ratios are useful. They are the replacement ratio and the benefit ratio.

The benefit ratio may be defined as the ratio of the plan benefit to gross income in the year preceding retirement. It is most useful for comparing benefits under the pension plans of various employers to each other at

various salary or service levels. However, it is not too useful for determining whether retirement income objectives are met because it does not take Social Security and other retirement factors into account.

A better analysis is obtained through the use of replacement ratios, which may be defined as the ratio of the pension plus Social Security to the employee's spendable income immediately prior to retirement--all on an after tax basis. This concept is discussed more fully in the next section.

#### REPLACEMENT RATIOS

Traditionally retirement income objectives for total plan benefits plus primary Social Security benefits have ranged from 70% to 80% of pre-retirement salary for lower paid employees and from 50% to 70% of pre-retirement salary for higher paid employees. These benefit objectives would normally apply for an employee who spends the major part of his career (i.e., 30 years or more) with an employer. Lesser benefit objectives are appropriate for shorter service employees, particularly in view of the fact that retirement plans now have relatively liberal eligibility conditions for vesting. Thus, many employees who join an employer later in their careers will have vested benefits from their previous employer or employers.

Personal savings are not directly taken into account in determining benefit objectives since employees accumulate varying amounts of personal savings at retirement and a large percentage of personal savings in this country is represented by home purchases.

In any event, the generally accepted basic goal for a retirement program is to provide retirement income from all sources that allows the retired employee to maintain a standard of living that is reasonably consistent with his standard of living before retirement. In determining the amount of retirement income that this goal necessitates, it should be recognized that when employees retire:

- they no longer have work-related expenses such as clothing, commuting costs and meals away from home,
- they probably will be eligible for Medicare upon attaining age 65,
- tax exemptions increase upon attaining age 65 and a larger portion of their income is taxed at lower rates (at least 50% and in many cases 100% of the Social Security benefit is tax free)
- the cost of supporting children has probably ceased,
- mortgage payments have probably stopped, and
- life insurance premiums may have been reduced or eliminated.

The cessation of the latter three items, while significant, obviously does not coincide with retirement. If these costs exist immediately before retirement, in most cases (other than premium paid up at 65) they will continue for a time after retirement. On the other hand, if they have ceased before retirement, the employees will have adjusted their standard of living accordingly.

After retirement employees have three sources of income:

- their retirement benefit under the employer's retirement program,
- Social Security, and



- the income which can be earned on accumulated personal savings or through the liquidation of a portion of personal savings.

A useful measure of the adequacy of this income is the replacement ratio.

The term replacement ratio applies to the percentage that retirement income provided by a retirement plan and by Social Security is of an employee's income immediately prior to retirement on an after-tax spendable income basis.

Pre-retirement spendable income

Pre-retirement spendable income may be defined as gross earnings less the following:

- Federal and state income taxes
- Social Security tax
- Work-related expenses
- Life insurance costs
- Medical insurance costs.

Post-retirement spendable income

Post-retirement spendable income may be defined as the

- Pension from the employer's plan, plus
- Social Security benefits, less
- Federal and state income taxes, less
- Medicare premiums.

As an example -

Employee earns - \$25,000

Company pension - \$ 8,000

However - Income taxes on the pension might be \$100 and as much as \$2,500 on the \$25,000 in wages. Since total retirement income is less than \$25,000, there would be no income tax on the Social Security benefit.

Adding - Social Security Benefit - \$ 8,000

Social Security Taxes - \$ 1,675

Commuting Costs - \$ 725

We get the following:

Take home pay	\$25,000 (wages)
	-2,500 (taxes)
	-1,675 (Soc. Sec.)
	<u>- 725 (commuting)</u>
	\$20,100

Spendable Retirement Income	\$ 8,000 (company pension)
	+8,000 (Soc. Sec.)
	<u>- 100 (taxes)</u>
	\$15,900

Replacement Ratio =  $\frac{\$15,900}{\$20,100} = 79\%$

A pretty good plan!

In this example we have used only the primary Social Security benefit. If the retiree has a spouse, the Social Security pension will be 50% bigger, and the replacement ratio would be over 100%.

The question of whether to include the spouse's Social Security in the calculation is a philosophical one which has to be addressed in the employer's retirement policy. Certainly the spouse's Social Security benefit is part of the total retirement income of the couple. To ignore it is to understate the total retirement income of the couple.

On the other hand, employees receive the same pension from the employer whether they are single or married. If the spouse's Social Security benefit is taken into account, the pension plan that is adequate for married employees will be inadequate for single employees. The employer's retirement income objectives should try to balance the needs of single and married employees on this issue.

#### CONCLUSION

The goal of a retirement income policy is to meet the retirement income needs of the workforce at a cost level most affordable to the employer. There are many issues to be decided regarding service, compensation, age at retirement, integration with Social Security, etc. The calculation of the replacement ratio based on the retirement benefit as defined by the answers to the stated issues is the best measure of how well the employer's retirement income objectives have been met.